

Docket: 740819-1016  
Application No. 10/600,596  
Page 3

### AMENDMENT TO THE CLAIMS

Please amend the claim as follows:

1. (Currently Amended) A method for predicting, using a test wafer, a temperature of a wafer to be loaded into a lamp heating system including a lamp, the method comprising the steps of:

a) preparing the test wafer, which includes a first semiconductor layer formed in a crystalline state, a second semiconductor layer formed in an amorphous state on the first semiconductor layer, and a light absorption film formed over the second semiconductor layer;

b) loading the test wafer into the lamp heating system and then irradiating the test wafer with a light emitted from the lamp, thereby heating the second semiconductor layer through the light absorption film;

c) calculating a recovery rate of the second semiconductor layer from the amorphous state to the crystalline state at which a part of the second semiconductor layer that has been heated recovers from the amorphous state to the crystalline state at the interface with the first semiconductor layer; and

d) measuring a temperature of the test wafer that has been irradiated with the light, according to a relationship between the recovery rate and a temperature corresponding to the recovery rate.

2. (Original) The method of claim 1, wherein at least a part of the light has a wavelength at which the first semiconductor layer transmits the light.

3. (Original) The method of claim 2, wherein the light has a wavelength at which the first semiconductor layer has a transmittance to the light, the transmittance increasing within a temperature range.

Docket: 740819-1016  
Application No. 10/600,596  
Page 4

4. (Original) The method of claim 1, wherein the light has a wavelength from about 1.0  $\mu\text{m}$  to about 3.0  $\mu\text{m}$ , both inclusive.

5. (Original) The method of claim 3, wherein the temperature range is from about 450° C to about 600° C, both inclusive.

6. (Original) The method of claim 1, wherein the test wafer has a diameter of about 30.5 cm or more.

7. (New) A test wafer for predicting a temperature of a wafer to be loaded into a lamp heating system, the test wafer comprising:

a first semiconductor layer formed in a crystalline state;

a second semiconductor layer formed in an amorphous state on the first semiconductor layer;

a light absorption film formed over the second semiconductor layer; and

a barrier film that prevents the second semiconductor layer and the light absorption film from reacting together, the barrier film being formed between the second semiconductor layer and the light absorption film.

8. (New) The test wafer of claim 7, wherein the test wafer has a diameter of about 30.5cm or more.

9. (New) A method for evaluating a lamp heating system including a lamp, the method, which utilizes a transmittance to a light emitted from the lamp, is used for evaluating whether or not respective temperatures of a first test wafer and a second test wafer loaded in the lamp heating system are affected by the light, the method comprising the steps of:

a) preparing the first test wafer, which includes a first semiconductor layer formed in a crystalline state and a second semiconductor layer formed in an amorphous state on the first semiconductor layer, and the second test wafer, which includes a third

Docket: 740819-1016  
Application No. 10/600,596  
Page 5

semiconductor layer formed in a crystalline state, a fourth semiconductor layer formed in an amorphous state on the third semiconductor layer, and a light absorption film formed over the fourth semiconductor layer;

b) loading the first test wafer and the second test wafer into the lamp heating system and then irradiating the first test wafer and the second test wafer with the light, thereby heating the second semiconductor layer and heating the fourth semiconductor layer through the light absorption film;

c) obtaining a first rate of variation in thickness of the second semiconductor layer with respect to a period of time in which the second semiconductor layer is subjected to heat, and obtaining a second rate of variation in thickness of the fourth semiconductor layer with respect to a period of time in which the fourth semiconductor layer is subjected to heat; and

d) comparing the first rate with the second rate, thereby judging that the temperature of the first test wafer is not easily affected by the light transmitted through the first test wafer if the first rate is equal to the second rate, while judging that the temperature of the first test wafer is easily affected by the light transmitted through first test wafer if the first rate is smaller than the second rate.

10. (New) A method for predicting, using a test wafer, a temperature of a wafer to be loaded into a lamp heating system including a lamp, the method comprising the steps of:

a) preparing the test wafer, which includes a first semiconductor layer formed in a crystalline state, a second semiconductor layer formed in an amorphous state on the first semiconductor layer, and a light absorption film formed over the second semiconductor layer, wherein the first semiconductor layer and the second semiconductor layer are made of silicon and the light absorption film is made of a conductive film containing a metal;

b) loading the test wafer into the lamp heating system and then irradiating the test wafer with a light emitted from the lamp, thereby heating the second semiconductor layer through the light absorption film;

Docket: 740819-1016  
Application No. 10/600,596  
Page 6

c) calculating a recovery rate at which part of the second semiconductor layer that has been heated recovers from the amorphous state to the crystalline state at the interface with the first semiconductor layer; and

d) measuring a temperature of the test wafer that has been irradiated with the light, according to a relationship between the recovery rate and a temperature corresponding to the recovery rate.

11. (New) The method of claim 10, wherein in preparing the test wafer, the light absorption film is made of a metal that is usable for forming a silicide and the lamp heating system is used for a silicidation process.

12. (New) The method of claim 10, wherein in preparing the test wafer, the test wafer includes a barrier film that prevents the second semiconductor layer and the light absorption film from reacting together, the barrier film being formed between the second semiconductor layer and the light absorption film.